

Professor WANG Yongzhen Research Direction (1) Preparation and characterization of carbon matrix composites (2) Electrochemical applications of graphene-based energy storage materials Publication 1. Zhen Tian, Jiahuan Yin, Yongzhen Wang*, et al. Construction of Ni₃S₂ Wrapped by rGO on Carbon Cloth for Flexible Supercapacitor ...

@article{Wu2024ModulatingIH, title={Modulating Inner Helmholtz Layer by Electrocatalytically Sieving [Zn(H₂O)₆]²⁺ for 10000-cycle Zinc-Ion Hybrid Capacitors under Extremely Harsh Conditions}, author={Ziling Wu and Yinze Zuo and Yongzheng Zhang and Xiang Li and Jing Zhang and Yanli Wang and Chunyin Shen and Xiaomin Cheng and Meinan Liu and ...

The Journal of Energy Storage focusses on all aspects of energy storage, in particular systems integration, electric grid integration, modelling and analysis, novel energy storage technologies, sizing and management strategies, business models for operation of storage systems and energy storage developments worldwide.

Zinc-ion hybrid capacitors (ZIHCs) are famous for potential applications in grid-scale energy storage devices with fast-charge capability. However, their industrialization is severely plagued by inferior performance caused by the sluggish Zn²⁺ desolvation kinetics with large spatial diffusion hinderance of [Zn(H₂O)₆]²⁺ in the inner Helmholtz plane (IHP) layer, ...

Surface and cross-sectional morphology was examined using a ZEISS SIGMA 500 SEM equipped with an energy-dispersive X-ray spectroscopy (EDS) system. The specimens were loaded into an air-tight sample holder and transferred from the Ar-filled glove box to the measurement equipment. When conducting cross-section tests of electrolytes and lithium ...

The linear-like relaxor ferroelectric Sr_{0.7}Bi_{0.2}TiO₃ with regulable microstructure offers a new platform to reveal the essential mechanism of energy storage properties improvement and develop advanced pulse capacitors. Herein, Li with relatively weak volatility accompanied by Bi was introduced in Sr_{0.7}Bi_{0.2}TiO₃ to form a charged defect and ...

Lithium-sulfur (Li-S) batteries are recognized as one of the most promising next-generation energy storage devices, but their practical application is greatly limited by ...

Carbon-based energy storage electrode materials are highly promising for energy storage because of their wide source of raw materials, stable structure and excellent electrical conductivity. Onion-like fullerenes (OLFs) have a unique quasi-spherical concentric fullerene structure, which is an ideal matrix for redox-active substances, and can effectively improve the ...

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Aiming at the problems of the poor economy of electrochemical energy storage technology and the mismatch between supply and demand of energy quality, based on the concept of energy cascade utilization and the business model of the sharing economy, this paper explores the new technologies and new business forms of shared energy storage stations ...

This study develops an optimisation model to quantify the benefits of embedding the vehicle-to-grid (V2G) into the integrated energy systems (IES) as a flexible energy storage. The system design, operation, and EV scheduling for the whole V2G-IES are optimised considering two trade-off objectives of cost and emissions.

DOI: 10.1016/j.jallcom.2023.173174 Corpus ID: 266341357; Onion-like fullerenes-based Electrode Materials for Energy Storage: Preparation, Modification and Applications @article{Yang2023OnionlikeFE, title={Onion-like fullerenes-based Electrode Materials for Energy Storage: Preparation, Modification and Applications}, author={Weipeng Yang and Lingpeng ...

With the increasing concerns in the development of sustainable energy storage devices, cellulose, a most abundant natural polymer resource on the planet, has been obtained much attentions due to its multi-hydroxyl groups for the fabrication of energy storage materials. ... Yongzhen Xu: Visualization, Data curation. Mingwei Xu: Software, Data ...

@article{Chen2024RegulatingIC, title={Regulating Interfacial Chemistry with Biobased Multifunctional Cellulose Levulinate Ester for Highly Reversible Zinc Ion Batteries}, author={Kui Chen and Yumei Chen and Yongzhen Xu and Mingwei Xu and Yue Li and Song Yang and Qing Wu and Qinqin Xu and Haibo Xie and Jun Huang}, journal={Energy Storage ...

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@article{Chen2023DesignAP, title={Design and performance evaluation of a novel system integrating Water-based carbon capture with adiabatic compressed air energy storage}, author={Long Chen and Liugan Zhang and Yongzhen Wang and Meina Xie and Huipeng Yang and Kai Ye and Soheil Mohtaram}, journal={Energy Conversion and ...

Keywords: Liquid air energy storage, Cryogenic separation, carbon capture, energy consumption, Performance analysis. Suggested Citation: Suggested Citation Zhang, Liugan and Ye, Kai and Wang, Yongzhen and Han, Wei and Xie, Meina and Chen, Longxiang, Performance Analysis of a Hybrid System Combining Cryogenic Separation Carbon Capture ...

Aiming at the problems of the poor economy of electrochemical energy storage technology and the mismatch

between supply and demand of energy quality, based on the concept of energy ...

Zinc-ion hybrid capacitors (ZIHCs) are famous for potential applications in grid-scale energy storage devices with fast-charge capability. However, their industrialization is severely plagued by inferior performance caused by the sluggish Zn desolvation kinetics with large spatial diffusion hinderance of [Zn(HO)] in the inner Helmholtz plane (IHP) layer, especially under low ...

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Therefore, OLFs are considered to be an ideal electrode material with great application prospects in the field of energy storage. This review provides a systematic ...

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